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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/933,630 | 08/20/2001 | Jaku Jose | WIDC-033/00US | 6415 |

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| EXAMINER | |
|---|---|
| JUNTIMA, NITTAYA | |
| **ART UNIT** | **PAPER NUMBER** |
| 2663 | |

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/933,630 | JOSE, JAKU |
| | Examiner | Art Unit |
| | Nittaya Juntima | 2663 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. Claims 3, 7, and 16 are objected to because of the following informalities:

- in claim 3, ll 1, "the first" should be changed to "a first;"

- in claims 7 and 16, "configured to" should be changed o make the limitations positive.

**An alternative to the suggested change would be a written confirmation stating that the claimed element performs the actual function following "configured to.** It has been held that the recitation that an element being "configured to" perform a function is *not* a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Haartsen (USPN 6,650,630 B1).

Regarding claim 14, as shown in Fig. 10d, Haartsen teaches a method comprising:

(a) Defining a duplex communication (TDD) channel using a plurality of time slots and a plurality of communication frequencies, each time slot having an associated communication frequency (col. 3, ll 20-29).

(b) Tuning a first receiver (RAD1) to a sequence of frequencies based on the passing of time slots (RAD1 must be tuned to a sequence of frequencies, see also col. 7, ll 49-63 and col. 9, ll 3-11, Figs. 5 and 7a).

(c) Detecting a first portion of a multi-slot packet (3D) in a first time slot (the master must detect that the packet 3D is a multi-slot packet in order to remain on the same frequency through a multi-slot packet, col. 13, ll 59-62, see also col. 12, ll 24-31).

(d) Timing said first transceiver (RAD1) to the communication frequency associated with said first slot for a number (three) of slots needed to correspond to said multi-slot packet (the master must time its RAD1 for three time slots in order to remain on the same frequency through a multi-slot packet 3D).

(e) During said number of slots (three time slots used in receiving packet 3D), tuning a second transceiver (RAD3) to communication frequencies in accordance with the defined duplex communication channel (RAD3 must be tuned to a sequence of frequencies according to TDD channel, see also col. 7, ll 49-63 and col. 9, ll 3-11, Figs. 5 and 7a).

4. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Mansfield (USPN 6,704,346 B1).

Regarding claim 15, as illustrated in Fig. 4A, Mansfield teaches a method comprising:

(a) Defining a duplex communication (TDD) channel using a plurality of time slots and a plurality of communication frequencies, each time slot having an associated communication frequency (col. 5, ll 32-38 and col. 6, ll 50-56).

(b) Receiving a first portion of a packet (a first slot of a 3-slot packet transmitted to a master on frequency F43) from a secondary device (slave) in a first time slot at a first communication frequency (F43). See col. 5, ll 64-66 and col. 6, ll 66-col. 7, ll 6.

(c) During a second time slot (a second slot of a 3-slot packet allocated to frequency F43), transmitting a packet using the communication frequency (F43) associated with said second time slot in the definition of the duplex communication channel (a 3-slot packet being transmitted to the master by the slave on frequency F43), and receiving a second portion of said packet from said secondary device at said first communication frequency (a portion of a 3-slot packet is received by the master at the second slot of the three slots allocated to frequency F43). See col. 5, ll 64-66 and col. 6, ll 66-col. 7, ll 6.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-8, 10-13, 16-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mansfield (USPN 6,704,346 B1) in view of Akerberg (USPN 6,553,078 B1).

Regarding claims 1, 4, and 16, as shown in Fig. 4A, Mansfield teaches a method comprising:

(a) receiving a first packet (a 3-slot packet transmitting from slave to master on frequency F43) at a first frequency (F43) from a first slave device via the channel (TDD), wherein said first packet is received beginning at a first slot (first of the three slots with frequency F43). See col. 4, ll 63-65, and col. 5, ll 32-38 and 60-66.

(b) determining whether said first packet is a multi-slot packet (the master must determine that the packet received is a multi-slot packet, e.g. using the packet type, in order to remain on the same frequency through a multi-slot packet, col. 6, ll 22-29 and 50-56), and if so, transmitting a second packet (a 3-slot packet transmitting from master to slave on frequency F11) to a second slave device via the channel at a second frequency (F11) different from said first frequency, wherein said second packet is transmitted after said first slot (col. 4, ll 63-65, and col. 5, ll 32-38 and 60-66).

However, Mansfield fails to teach that the second packet is transmitted prior to the end of the first packet.

In an analogous art shown in Fig. 3, Akerberg teaches transmitting a second transmitting frame (a dashed frame following frame 106) prior to the end of a first multi-slot receiving frame (frame 110). See col. 3, ll 29-39.

Given the teaching of Akerberg, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of Mansfield to include the teaching of Akerberg such that the second packet is transmitted prior to the end of the first packet as recited

in the claim. The suggestion/motivation to do so would have been to allow simultaneous transmission and reception in the master as taught by Akerberg (col. 3, ll 39-46).

Regarding claims 2, 5, 12, and 19, Mansfield teaches that the first packet comprises a header having a packet type code (the packet type) indicative of the slot length of said first packet, and said determining comprises inferring whether said first packet is a multi-slot packet based on said packet type code (the packet type in the packet header of a packet must be examined to determine the packet length, col. 6, ll 22-28).

Regarding claims 3, 6, 13, and 20, Mansfield fails to teach that the second packet is transmitted during a first available transmit slot.

However, in an analogous art shown in Fig. 3, Akerberg teaches that a second transmitting frame (a dashed frame following frame 106) is transmitted during a first available transmit slot right (a first dashed frame is transmitted following frame 106).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of Mansfield to include the teaching of Akerberg such that the second packet is transmitted during a first available transmit slot in order to efficiently utilize the transmission resource/bandwidth.

Regarding claim 17, Mansfield teaches that said master device is master of a piconet that includes said first slave and said second slave (col. 4, ll 63-65).

Claim 7 is a wireless device claim corresponding to method claim 1, and is therefore rejected under the same reason set forth in the rejection of claim 1 with the addition of a wireless device (a master, Fig. 4A), a first radio (an inherent receiver of a master, Fig. 4A), means for determining whether the first packet is a multi-slot packet (means for determining must be

included in order for the master to remain on the same frequency through a multi-slot packet, col. 6, ll 22-29 and 50-56), a second radio (an inherent transmitter of a master, Fig. 4A).

Regarding claim 8, Mansfield teaches that said wireless device (a master, Fig. 4A) acts as a master to said first slave and said second slave (col. 4, ll 63-65).

Regarding claim 10, Mansfield teaches that said first radio (an inherent receiver of a master, Fig. 4A) comprises a receive-only radio.

Regarding claim 11, Mansfield teaches that said first (an inherent receiver of a master, Fig. 4A) and second (an inherent transmitter of a master, Fig. 4A) radios comprise 2.4 GHz Bluetooth radios (col. 1, ll 13-16).

7. Claims 9 and 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mansfield (USPN 6,704,346 B1) in view of Akerberg (USPN 6,553,078 B1), and further in view of Watanabe et al. ("Watanabe") (USPN 6,834,192 B1).

Regarding claims 9 and 18, the combined teaching of Mansfield and Akerberg fails to teach that the master device comprises a network access point coupled to a network.

However, as illustrated in Fig. 1, Watanabe teaches that the master device/wireless device comprises a network access point (access point 22-1) coupled to a network (a packet data network PDN 16). See col. 5, ll 29-48.

Given the teaching of Watanabe, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined teaching of Mansfield and Akerberg to include that the master device comprises a network access point coupled to a network as recited in the claim in order to permit communications between the BT slaves connected to WLAN and a remote station connected to the network as taught by Watanabe (col. 5, ll 35-42).

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Takahashi et al. (USPN 5,918,164), disclosing transmitting of a signal following a reception of a portion of a signal at the master with a time offset (Fig. 11).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima
April 18, 2005
NT

RICKY NGO
PRIMARY EXAMINER
4/18/05